

matter is presented. No new matter is presented. Claims 1, 2 and 5 are respectfully submitted for consideration.

The specification was amended to correct a minor informality.

The drawings were objected to as not showing the claimed invention. The Applicants have amended claim 1 responsive to the rejection, so that the claims recite the features shown in the Figures. Specifically, the amendment to claim 1 clarifies that a level adjust means adjusts a level of at least the second signal and that the tracking error signal producing means produces a tracking error signal based on subtracting an output signal of the level adjust means from the first difference signal. Support for this amendment can be found on page 14 line 24 through page 15 line 11. See also Fig. 8b of the present application. As such, the Applicants respectfully request withdrawal of the objections.

Claims 1-4 were rejected under 35 U.S.C. §112, first paragraph, as containing subject matter which was not adequately described in the specification and the drawings. Claims 3 and 4 have been canceled without prejudice. As discussed above, the Applicants have amended claim 1 responsive to the rejection. Accordingly, the Applicants respectfully submit that all of the claims are now in compliance with U.S. Patent Practice.

Claims 1 and 3 were rejected under 35 U.S.C. §103(a) as being unpatentable over either Ohno et al. (U.S. Patent No. 5,828,634, "Ohno"), Takahashi et al. (U.S. Patent No. 5,708,636, "Takahashi '636"), Takahashi et al. (U.S. Patent No. 5,815,473,

"Takahashi '473") and Ohsato (U.S. Patent No. 5,159,589). As claim 3 has been canceled, the above rejection of claim 3 is now rendered moot.

Ohno was issued on October 27, 1998, and is based upon U.S. Patent Application Serial No. 808,986, filed on February 20, 1997. Takahashi '473 was issued on September 29, 1998, and is based upon U.S. Patent Application Serial No. 628,777, filed on February 20, 1997. Takahashi '636 was issued on January 13, 1998, and is based upon U.S. Patent Application Serial No. 655,753, filed on May 30, 1996. The present application, although not filed until December 15, 2000, is a divisional of U.S. Patent Application Serial No. 08/668,334 filed June 25, 1996, which claims priority from Japanese Patent Application No. 7-159645, filed June 26, 1995. Therefore, the effective filing date of Ohno, Takahashi '473 and Takahashi '636 is after the effective filing date of the present application. Based on the above-mentioned critical dates of the references and the present invention, under U.S. patent law, Ohno, Takahashi '473 and Takahashi '636 are not, therefore, a valid references against the present application under any section of 35 U.S.C. §102. In support of the above-mentioned priority date for the present invention, the Applicants submit herewith a verified translation of the priority document to perfect the claim for priority. A certified copy of the priority document was filed with prior application No. 08/668,334 on June 25, 1995. Therefore, as claim 1 was rejected under 35 U.S.C. §103, as being obvious view of Ohno, Takahashi '473, and Takahashi '636, these prior art rejections are improper. As such, the Applicants respectfully request withdrawal of these rejections. With respect to

Ohsato, as will be discussed below, claim 1 recites subject matter which is neither disclosed nor suggested in the cited prior art.

Claim 1, as amended, recites a reading system for reading a writable optical disc having an information writing track, a guiding track for introducing a laser beam to the information writing track, and prepit information including address information recorded on the guiding track. The system comprises a first photodetector having photodetecting elements divided at least by a first dividing line optically parallel with a tangential direction of the information writing track of the disc for detecting reflected light of a first laser beam irradiated to the information writing track. A second photodetector has photodetecting elements divided at least by a second dividing line optically parallel with the tangential direction for detecting reflected light of a second laser beam irradiated to the guiding track. A first difference signal producing means produces a first difference signal based on a difference between outputs of the photodetecting elements of the first photodetector being divided by the first dividing line. A second difference signal producing means produces a second difference signal based on a difference between outputs of the photodetecting elements of the second photodetector being divided by the second dividing line. Level adjust means adjust a level of at least the second difference signal. A tracking error signal producing means produces a tracking error signal based on subtracting an output signal of the level adjust means from the first difference signal.

As a result of the claimed configuration of elements, the prepit information including address information is recorded on the land as the guiding track. Thus, the



capacity for writing the information is increased, thereby improving the available efficiency of the disc. Further, since the prepit information for a guiding track is derived based on the difference signal between the outputs produced from the two-divided photodetector, the prepit information is ensured with a simple structure. The Applicants submit that the prior art of Ohsato fails to teach or suggest the claimed invention, and therefore, fails to provide the critical and non-obvious advantages which are provided by the invention.

Ohsato discloses an optical recording and/or reproducing apparatus comprising a photodetecting element 62 having parts 62A and 62B, photodetecting element 60 having parts 60a-60b and photodetecting element 64 having parts 64A and 64B. A subtractor 48A produces a first difference signal based on a difference between the output of the parts 62A and 62B of photodetecting element 62. A subtractor 46 produces a difference signal based on a difference between the outputs of the photodetecting part 60a-60b of the photodetecting element 50. The subtractor 48B produces a difference signal based on a difference between the output of the photodetecting element part 64A and 64B of photodetecting element 64. A difference signal  $S_m$  obtained from the subtractor 46 is supplied to a level controller 52 to be subjected, therein, to level adjustments with a gain of 2Gs and then supplied to one of input terminals of a subtractor 54. From the subtractor 54, a difference signal  $S_{ms}$  which corresponds to a level difference between the difference signal  $S_m$ , having been adjusted in level with a gain of 2Gs and the added signal  $S_s$ , is obtained to be supplied to one of input terminals of a divider 58. The signal-producing circuit block is

constituted to obtain a first difference between detection output signals obtained respectively from the two parts of the first photo-detecting elements, a second difference between detection output signals obtained, respectively, between from the two parts of the photodetecting elements and a third difference between detection output signals obtained respectively from the two parts of the third detecting elements, and then to produce a tracking error signal based on a ratio of a difference between the first difference and the sum of the second and third differences in relation to a difference between the second and third differences.

The Applicants respectfully submit that Ohsato fails to disclose the claimed features of the invention. Claim 1 recites producing a tracking error signal based on subtracting an output signal of the level adjust means from the first difference signal. In contrast, the tracking error signal  $St$  in Ohsato is produced based on a ratio of a difference of the first difference signal  $Sm$  and the sum of the second and third difference signals  $Sp$ ,  $Sn$  in relation to the difference between the second and third difference signals  $Sp$ ,  $Sn$ . See Fig. 4 of Ohsato. As such, Ohsato fails to disclose subtracting the output signal of the level adjust means from the first difference signal.

Accordingly, the Applicants submit that the rejection of claim 1 does not comply with MPEP §706.02(j), which requires that the references teaches or suggest all of the claimed limitations. Accordingly, as Ohsato does not to teach or suggest the features of the invention as recited in claim 1, the Office Action has failed to establish a *prima facie* case of obviousness for purposes of a rejection of claim 1 under §103.

Claims 1, 2 and 5 are pending. Claims 3 and 4 have been canceled. Claims 2 and 5 depend from claim 1. The Applicants respectfully submit that claims 2 and 5 are allowable for their dependency from allowable base claim 1 as well as the additional subject matter recited therein. As discussed above, claims 1 and 3 were rejected under 35 U.S.C. § 102 as being obvious in view of any one of Ohno, Takahashi '473, Takahashi '636, and Ohsato. However, claim 3 has been canceled and the Applicants submit that Ohno, Takahashi '473 and Takahashi '636 are not prior art under §102, and therefore cannot serve as references to reject claim 1 under §103. The Examiner is directed to the attached verified translation. With respect to claim 1 and Ohsato, it is respectfully submitted that claim 1 recites subject matter which is neither disclosed nor suggested in Ohsato.

Should the Examiner believe anything further is desirable in order to place this application in better condition for allowance, the Examiner is requested to contact the undersigned at the telephone number listed below.

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In the event this paper is not considered to be timely filed, the Applicants respectfully petition for an appropriate extension of time. Any fees for such an extension, together with any additional fees that may be due with respect to this paper, may be charged to Counsel's Deposit Account No. 01-2300.

Respectfully submitted,



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Enclosures: Marked-Up Copy of Original Claim 1  
Marked-Up Copy of Original Specification  
Verified Translation  
Petition for Extension of Time (3 months)  
Check No. 331169



**MARKED-UP COPY OF ORIGINAL CLAIM 1**

1. (Amended) A reading system for reading a writable optical disc having an information writing track, a guiding track for introducing a laser beam to the information writing track, and prepit information including address information recorded on the guiding track, the system comprising:

a first photodetector having photodetecting elements divided at least by a first dividing line optically parallel with a tangential direction of the information writing track of the disc for detecting reflected light of a first laser beam irradiated to the information writing track[,]

a second photodetector having photodetecting elements divided at least by a second dividing line optically parallel with the tangential direction [of the information writing track of the disc] for detecting reflected light of a second laser beam irradiated to the guiding track[,]

first difference signal producing means for producing a first difference signal based on a difference between outputs of the photodetecting elements of the first photodetector being divided by the first dividing line[,]

second difference signal producing means for producing a second difference signal based on a difference between outputs of the photodetecting elements of the second photodetector being divided by the second dividing line, [and]

level adjust means for adjusting a level of at least the second difference signal,  
and



tracking error signal producing means for producing a tracking error signal based on subtracting [the second difference signal, a level of which is adjusted,] an output signal of the level adjust means from the first difference signal.

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### **MARKED-UP COPY OF AMENDMENTS TO THE SPECIFICATION**

On the other hand, the outputs B and C of the photodetector 54 are added by the adder 59, and the outputs A and D are added by the adder 60. The outputs (B+C) and (A+D) are subtracted by the subtracter 65. The output  $(B+C) - (A+D)$  is applied to one of the terminals of the adder 67. Furthermore, outputs I and J of the photodetector 56 are added by the adder 63. The output (I+J) is applied to the other terminal of the adder 67. The output  $\{ (B+C) - (A+D) \} + \{ (I+J) \}$  of the adder 67 is applied to the coefficient multiplier 77 where the  $\{ (B+C) - (A+D) \} + \{ (I+J) \}$  is multiplied by a constant K ( $K=0-1$ ) for correction. The multiplied output  $K [ \{ (B+C) - (A+D) \} + \{ (I+J) \} ]$  is applied to a minus terminal of the subtracter 70. Thus, the tracking error signal  $\{ (F+G) - (E+H) \} [ - \{ (A+D) \} ] - K [ \{ (B+C) - (A+D) \} + \{ (I+J) \} ]$  is produced from a terminal 73.

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